Stationary Engines and Turbines
Air Permits by Rule (PBR) Checklist
Title 30 Texas Administrative Code § 106.512

Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division Web site at: **www.tceq.state.tx.us/permitting/air/nav/air_pbr.html**.

This PBR (**§ 106.512**) requires registration with the commission's Office of Permitting, Remediation, and Registration in Austin before construction if the horsepower (hp) of the facility is greater than 240 hp. Registration of the facility can be performed by completing a **Form PI-7**, "Registration for Permits by Rule," or **Form PI-7-CERT**, "Certification and Registration for Permits by Rule." This checklist should accompany the registration form.

Definitions:

The following words and terms, when used in this section, shall have the following meanings, unless the context clearly indicates otherwise.

A. Rich-burn Engine: A rich-burn engine is a gas-fired, spark-ignited engine that is operated with an exhaust oxygen content less than four percent by volume.

B. Lean-burn Engine: A lean-burn engine is a gas-fired, spark-ignited engine that is operated with an exhaust oxygen content of four percent by volume, or greater.

C. Rated Engine Horsepower: Engine rated horsepower shall be based on the engine manufacturer's maximum continuous load rating at the lesser of the engine or driven equipment's maximum published continuous speed.

D. Turbine Horsepower: Turbine rated horsepower shall be based on turbine base load, fuel power heating value, and International Standards Organization Standard Day Conditions of 59 degrees Fahrenheit, 1.0 atmosphere pressure, and 60 percent relative humidity.

CHECK THE MOST APPROPRIATE ANSWERS AND FILL IN THE BLANKS			
Rule	**Questions/Description**	**Information**	**Response**
	Will the engine or turbine be used as a replacement at an oil and gas site and does it meet all the requirements of the policy memo entitled, "**Replacement of All Engine and Turbine Components for Oil and Gas Production**?" *If "YES," registration is not required for like-kind replacements of engine or turbine components.* *If "NO," please continue.*		☐ YES ☐ NO
(1)	Is the engine or turbine rated less than 240 hp? *If "YES," then registration is not required, but the facility must comply with conditions (5) and (6) of this rule.* *If "NO," then registration is required and the facility must be registered by submitting a completed **Form PI-7** and **Table 29** or **Table 31**, as applicable, within 10 days after construction begins.*		☐ YES ☐ NO
(1)	Indicate the type of equipment (pick one): *If an engine, go to Question (2).* *If a turbine, go to Question (3)*	☐ Engine ☐ Turbine	☐ YES ☐ NO

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Rule	**Questions/Description**	**Information**	**Response**
(2)	Is the engine rated at 500 hp or greater? *If "NO," the engine is between 240 hp and 500 hp. The engine must be registered by submitting a completed **Form PI-7** and a **Table 29** within 10 days after construction begins and must comply with conditions (5) and (6) of this rule.* *If "YES," in addition to registration, the engine must operate in compliance with the following nitrogen (NO_x) emission limit(s). Check the limit(s) applicable to this engine by answering the following:*		☐YES ☐NO
(2)(A)(i)	The engine is a gas-fired, rich-burn engine and will not exceed 2.0 grams per horsepower hour (g/hp-hr) under all operating conditions.	_____ g/hp-hr NO_x	☐YES ☐NO
(2)(A)(ii)	The engine is a spark-ignited, gas-fired, lean-burn engine or any compression-ignited, dual fuel-fired engine manufactured new after June 18, 1992, and will not exceed 2.0 g/hp-hr NO_x at manufacturer's rated full load and speed at all times; except, the engine will not exceed 5.0 g/hp-hr NO_x under reduced speed and 80% and 100% of full torque conditions.	_____ g/hp-hr NO_x	☐YES ☐NO
(2)(A)(iii)	The engine is any spark-ignited, lean-burn two-cycle or four-cycle engine or any compression-ignited, dual fuel-fired engine rated 825 hp or greater and manufactured between September 23, 1982 and June 18, 1992, and will not exceed 5.0 g/hp-hr NO_x under all operating conditions.	_____ g/hp-hr NO_x	☐YES ☐NO
(2)(A)(iv)	The engine is any spark-ignited, gas-fired, lean-burn, four-cycle engine or compression-ignited, dual-fuel-fired engine that was manufactured before June 18, 1992, and is rated less than 825 hp, or was manufactured before September 23, 1982, and will not exceed 5.0 g/hp-hr NO_x at manufacturer's rated full load and speed at all times; except, the engine will not exceed 8.0 g/hp-hr NO_x under reduced speed and 80% and 100% of full torque conditions.	_____ g/hp-hr NO_x	☐YES ☐NO
(2)(A)(v)	The engine is any spark-ignited, gas-fired, two-cycle, lean-burn engine that was manufactured before June 18, 1992, and is rated less than 825 hp, or was manufactured before September 23, 1982, and will not exceed 8.0 g/hp-hr NO_x under all operating conditions.	_____ g/hp-hr NO_x	☐YES ☐NO
(2)(A)(vi)	The engine is any compression-ignited, liquid-fired engine and will not exceed 11.0 g/hp-hr NO_x under all operating conditions.	_____ g/hp-hr NO_x	☐YES ☐NO
(2)(B)	Does the engine require an automatic air-fuel ratio controller to meet the NO_x limit(s) above?		☐YES ☐NO
(2)(B)	For spark-ignited gas-fired or compression-ignited dual fuel-fired engines, is the engine required to have an automatic air-fuel ratio controller under condition (2)(B) of the PBR?		☐YES ☐NO

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Rule	**Questions/Description**	**Information**	**Response**
(2)(C)	Are you aware of and accept responsibility for the record and testing requirements as specified in (2)(C) of the PBR?		☐ YES ☐ NO
(3)	Is the turbine rated 500 hp or more? *If "NO," the turbine is between 240 hp and 500 hp. The engine only needs to be registered by submitting a completed **Form PI-7** and a **Table 31** within 10 days after construction begins.* *If "YES," in addition to registration, the turbine must operate in compliance with the following emission limit(s).*		☐ YES ☐ NO
(3)(A)	Will the emissions of NO_x exceed 3.0 g/hp-hr for gas-firing?		☐ YES ☐ NO
(3)(B)	Will the turbine meet all applicable NO_x and sulfur dioxide (or fuel sulfur) emission limitations, monitoring requirements, and reporting requirements of **40 CFR Part 60, NSPS Subpart GG**?		☐ YES ☐ NO
(4)	Is the engine or turbine rated less than 500 hp or used for temporary replacement purposes? *If "NO," go to Question (5).* *If "YES," the equipment does not have to meet the emission limits of (2) and (3). However, the temporary replacement equipment can only remain in service for a maximum of 90 days.*		☐ YES ☐ NO
(5)	What type of fuel will be used and will the fuel meet the requirements of the PBR? *Indicate the fuel(s) used.*	☐ Natural gas ☐ Liquid petroleum gas ☐ Field gas ☐ Liquid fuel	☐ YES ☐ NO
(6)	Does the installation comply with the National Ambient Air Quality Standards (NAAQS)? *Note: Indicate which method is used and attach the modeling report and/or calculations and diagrams to support the selected method.*	☐ Modeling ☐ Stack height ☐ Facility emissions and property line distance	☐ YES ☐ NO
(6)	Have you included a modeling report and/or calculations and diagrams to support the selected NAAQS compliance determination method?		☐ YES ☐ NO
	For the following questions, please refer to the **Electric Generators under Permit by Rule** policy memo from October 2006.		
(7)	Is the engine or turbine used to generate electricity? *If "NO," the following do not apply.*		☐ YES ☐ NO

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Rule	**Questions/Description**	**Information**	**Response**
(7)	Will the engine or turbine be used to generate electricity to operate facilities authorized by a New Source Review Permit? *If "YES," the engine or turbine does not qualify for this PBR and authorization must be obtained through a permit amendment.*		☐ YES ☐ NO
(7)	If the engine or turbine is used to generate electricity, will it be exclusively for on-site use at locations which cannot be connected to an electric grid? *If "YES," describe why access to the electric grid is not available.* *If "NO," the engine or turbine does not qualify for this PBR.*		☐ YES ☐ NO
(7)	Has an Electric Generating Unit Standard Permit been issued for one of the following activities for which the engine or turbine will only be used to generate electricity? ☐ Engines or turbines used to provide power for the operation of facilities registered under the Air Quality Standard Permit for Concrete Batch Plants. ☐ Engines or turbines satisfying the conditions for facilities permitted by rule under **30 TAC 106, Subchapter E** (relating to Aggregate and Pavement). ☐ Engines or turbines used exclusively to provide power to electric pumps used for irrigating crops. *If "NO," the engine or turbine does not qualify for this PBR.*		☐ YES ☐ NO
Rule	**Other Applicable Rules and Regulations**	**Why or Why Not?**	**Response**
	If the engine or turbine is located in the Houston/Galveston nonattainment area, is the site subject to the Mass Emission Cap and Trade Program?		☐ YES ☐ NO
	Is the facility subject to **30 TAC Chapter 115**?		☐ YES ☐ NO
	Is the facility subject to **30 TAC Chapter §§ 117.201-223**?		☐ YES ☐ NO

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		Why or Why Not?	**Response**
	Is the facility subject to **40 CFR Part 60, NSPS Subpart D**?		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 60, NSPS Subpart Da**?		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 60, NSPS Subpart Db**?		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 60, NSPS Subpart Dc**?		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 60, NSPS Subpart GG**?		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 63, MACT Subpart YYYY**?		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 63, MACT Subpart ZZZZ**		☐ YES ☐ NO
	Is the facility subject to **40 CFR Part 63, MACT Subpart PPPPP**?		☐ YES ☐ NO

Record Keeping: In order to demonstrate compliance with the general and specific requirements of this PBR, sufficient records must be maintained to demonstrate that all requirements are met at all times. If the engine or turbine is rated greater than 500 horsepower, all records must be maintained as required by **30 TAC § 106.512(2)(C)**. The registrant should also become familiar with the additional record keeping requirements in **30 TAC § 106.8**. The records must be made available immediately upon request to the commission or any air pollution control program having jurisdiction. If you have any questions about the type of records that should be maintained or testing requirements, contact the Air Program in the **TCEQ Regional Office** for the region in which the site is located.

Recommended Calculation Method: In order to demonstrate compliance with this PBR, emission factors for each air contaminant from the EPA Compilation of Air Pollutant Emission Factors (AP-42), Fifth Edition, Volume 1, Section 3.1: Stationary Gas Turbines for Electricity Generation at: **www.epa.gov/ttn/chief/ap42/index.html** should be used, including, the specific air contaminant's emission limit listed on the table below.

Print Form Reset Form

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TCEQ Exemption 30 TAC §106.512 General Guidelines										
NO_X g/hp-hr Emission Limits										
Date Original Manufacture		NA	NA	Before 9/23/82		9/23/82 to 6/18/92			After 6/18/92	
Mfg. Rated Horsepower		<240	>240 <500	>500*		500-824*		>825	>500*	
Operating Speed Operating Torque		NA NA	NA NA	Full NA	Reduced 80-100%	Full NA	Reduced 80-100%	NA NA	Full NA	Reduced 80-100%
Ignition Type	*Engine Combustion Design*									
Spark	Rich Burn †† Lean Burn** 2-Cycle	NA NA NA	NA NA NA	2.0 5.0 8.0	2.0 8.0 8.0	2.0 5.0 8.0	2.0 8.0 8.0	2.0 5.0 5.0	2.0 2.0 2.0	2.0 5.0 5.0
Compression	Dual Fuel Liquid Fuel	NA NA	NA NA	5.0 11.0	8.0 11.0	5.0 11.0	8.0 11.0	5.0 11.0	2.0 11.0	5.0 11.0
	Turbines†	NA	NA	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PI-7 Registration Emission Testing		No No	Yes No	Yes Biennial	Yes Biennial	Yes Biennial	Yes Biennial	Yes Biennial	Yes Biennial	Yes Biennial

Notes:

* Lower emission rates apply to lean-burn engine operating: Full Speed & Any Torque or Any Speed & <80% or >100% Torque
† Turbine emissions are also regulated by EPA NSPS Standards for NO_X and SO_2
** Lean Burn > 4% exhaust 0_2
†† Rich Burn = ≤ 4% exhaust 0_2